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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/693,158   | 10/24/2003  | Shankar Pal          | MSFT-2851/306821.01 | 1679             |
| 23377  | 7590        | 03/16/2006           | EXAMINER            |                  |
| WOODCOCK WASHBURN LLP<br>ONE LIBERTY PLACE, 46TH FLOOR<br>1650 MARKET STREET<br>PHILADELPHIA, PA 19103 |             |                      | BELL, CORY C        |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 2164                |                  |

DATE MAILED: 03/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |                                   |  |
|------------------------------|--------------------------------------|-----------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/693,158 | <b>Applicant(s)</b><br>PAL ET AL. |  |
|                              | <b>Examiner</b><br>Cory C. Bell      | <b>Art Unit</b><br>2164           |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

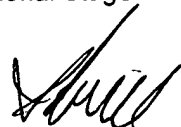
#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

  
**SAM RIMELL**  
**PRIMARY EXAMINER**

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION**

1. Claims 1-17 have been examined.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-17 are rejected under 35 USC 112 2<sup>nd</sup> paragraph.
3. Claim 1 is rejected for the following reasons:  
the relationship between “a class” on lines 2 and 5 is unclear;  
the relationship between. “a field” on lines 5, 7, and 9 is unclear;  
the relationship between. “a user defined type” on lines 5-6 and 7 is unclear;  
line 10 contains an optional recitation “can” making the bounds of the claim unclear; and, it is unclear whether the claim is directed to a system or a process.
4. Claim 2 is rejected because “an object” on line 2 of the claim has an unclear relationship to “an object” on line 1 of claim 1.
5. Claim 4 is rejected because the relationship between “an instance” on line 2 and on lines 7-8 of claim 1, as well as, the relationship of “XML data” on line 2 and line 10 of claim 1 is unclear

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6. Claim 6 is rejected because the relationship between “an instance” on lines 2 and 3 and on lines 7-8 of claim 1 is unclear.

7. Claim 7 is rejected for the following reasons:

the relationship between “a class in managed code” on lines 3 and 4 is unclear;

the relationship between “a database store” on lines 5 and 8 is unclear;

it appears the after stating a runtime comprising the limitations describe the managed code, thus

it is unclear if the applicant intends the runtime to comprise the managed code; and,

line 9 contains an optional recitation “can” making the bounds of the claim unclear; and, it is

unclear whether the claim is directed to a system or a process.

8. Claim 8 is rejected because “an object” on line 2 of the claim has an unclear relationship to “objects” on line 3 of claim 7.

9. Claim 10 is rejected because the relationship between “an instance” on line 2 and on line 7 of claim 7, as well as, the relationship of “XML data” on line 3 and line 9 of claim 7 is unclear.

10. Claim 12 is rejected for the following reasons:

Line 9 states, “when executed on a computer” which is optionally recited, thus making the bounds of the claim unclear;

the relationship between “a user defined type” on lines 2, 4-5 and 6 is unclear;

the relationship between. “an instance” on lines 8 and 10 is unclear; and,

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the relationship between. “a user defined type” on lines 5-6 and 7 is unclear.

11. Claim 13 is rejected because “an object” on line 2 of the claim has an unclear relationship to “an object” on line 2 of claim 12. Claim 13 also states that it is dependant upon claim 1 however it appears it was intended to depend upon claim 12 and shall be considered as depending upon claim 12 for the remainder of this office action.

12. Claim 14 is rejected because the relationship between “an instance” on line 3 and on line 8 of claim 12 is unclear.

13. Claim 15 is rejected because the relationship of “XML data” on line 2 and line 11 of claim 12 is unclear.

14. Claim 17 is rejected because the relationship between “an instance” on lines 3 and 4 and on line 8 of claim 12 is unclear.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

15. Claims 1, and 12-17 are rejected under 35 USC 101.

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16. Claim 1 is rejected under 35 USC 101 as the claims are directed to neither a “process” nor a “machine” but instead overlaps the two statutory categories. See MPEP 2173.05(p).

17. Claim 12 is rejected under 35 USC 101 as the claim is not useful, as it is not positively recited that the program is executed. Thus, the claim contains only non-functional descriptive material and is, therefore, non-useful.

18. Claims 13-17 are rejected based on their dependency on claim 12.

***Claim Rejections - 35 USC § 102***

19. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

20. The following claims are rejected under 35 USC 102(e) as being anticipated by US Patent No. 6,721,727, hereafter known as Chau: 1-17.

21. **Claim 1** is rejected for the following reasons:

As best understood claim 1 was intended to be a method claim and shall be examined as such.

Thus claim 1 is anticipated for the reasons shown below.

In a system in which an object that is an instance of a user defined type can be persisted in a database store, wherein a definition of the user defined type is provided as a class in managed code and comprises one or more fields and behaviors, each field having a respective data type, a method comprising: defining a class in managed code that represents an XML data type for a field of a user defined type(*Col 44 lines 45-50, this teaches a user defined class containing fields, Col 7 lines 55-58 teach that these columns, or fields, are an XML user-defined type, the code is also inherently managed by the system that implements it*); defining a field within the managed code class definition of a user defined type as an instance of the managed code class that represents the XML data type(*As best understood and using the broadest reasonable definition, this claim states defining a claim as being part of a class. This limitation is thought in the rejection of the previous limitation as be defining a class containing fields that field is also being defined as an instance of the class*); and persisting an instance of the user defined type within the database store (*Col 8 lines 52-56*), whereby a field of the persisted instance can contain XML data(*Optionally recited and therefore non-limiting*).

22. **Claim 2** is rejected for the following reasons:

The method recited in claim 1, wherein the managed code class that represents the XML data type comprises at least one constructor (*Col 8 lines 36-41composing a XML document into a relational table is inherently done by a constructor*) and at least one method that returns an object through which the XML data in the field of the persisted

instance of the user defined type can be retrieved(*Col 8 lines 36-41 composing an XML document, the returned object, from the relational table*).

23. **Claim 3** is rejected for the following reasons:

The method recited in claim 1, further comprising adding a method to the managed code class definition of the user defined type to implement behavior on the field of the user defined type that is defined as an instance of the managed code class that represents the XML data type(*Col 8 lines 1-4 shows that the columns can have user defined functions (or behaviors using the broadest reasonable interpretation) associated with the columns*).

24. **Claim 4** is rejected for the following reasons:

The method recited in claim 1, further comprising the step of associating the field of an instance of the user defined type that contains XML data with an XML Schema that defines a content model for the XML data in the field(*Col 12 line 56- Col 13 line 49, teaches an XML Schema (the DAD/DTD) Col 40-49 teaches the documents association with the mapping thus making the dtd associated with the fields*).

25. **Claim 5** is rejected for the following reasons:

The method recited in claim 4, wherein said associating step comprises annotating the managed code class definition of the user defined type with an attribute that identifies the XML Schema on a server that hosts the database store(*Col 40-49 teaches the DTDID and that this attribute must be specified, hence it is annotated*).



26. **Claim 6** is rejected for the following reasons:

The method recited in claim 1, further comprising at least one of the steps of: querying an instance of the user-defined type persisted within the database store(*Col 44 lines 37-44*); and modifying an instance of the user-defined type persisted within the database store.

27. **Claim 7**, as best understood, is rejected for the following reasons:

A system comprising: a runtime that provides managed code execution (*The system must inherently have a runtime in order to be operational*), the runtime comprising: a class in managed code that represents an XML data type; and a class in managed code that defines a user defined type for storage of objects of that type within a database store, the class definition for the user defined type comprising one or more fields,(*See Claim 1 rejection*) each field having a respective data type (*Every field inherently has a data type*) and at least one of said fields being defined as an instance of the managed code class that represents the XML data type; and a database store for storing an instance of the user defined type, whereby a field of the persisted instance can contain XML data.(*See Claim 1 rejection*)

28. **Claim 8** is rejected for the following reasons:

See claim 2 rejection.

29. **Claim 9** is rejected for the following reasons:

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See claim 3 rejection.

30. **Claim 10** is rejected for the following reasons:

See Claim 4 rejection.

31. **Claim 11** is rejected for the following reasons:

See Claim 5 rejection.

32. **Claim 12** is rejected for the following reasons:

A computer readable medium having program code stored thereon for use in a system in which an object that is an instance of a user defined type can be persisted in a database store, said program code comprising: a first class in managed code that represents an XML data type for a field of a user defined type(*See Claim 1 rejection, First class can be considered the main table Col 111 lines 45-48*)); a second class in managed code that defines a user defined type(*See Claim 1 rejection and col 11 lines 49-53, one of the side tables being a second class*), the second class comprising one or more fields and behaviors,(*See claims 1 and 3 rejections*) each field having a respective data type (*Inherent*), at least one of the fields within the second class being defined as an instance of the first class(*Figure 3, all tables contain the field root\_id*), said program code, when executed on a computer, enabling the computer to persist an instance of the user defined type within the database store, wherein said at least one field of the persisted instance contains XML data(*Optionally recited and therefore non-limiting*).

33. **Claim 13** is rejected for the following reasons:

See claim 2 rejection.

34. **Claim 14** is rejected for the following reasons:

See claim 3 rejection.

35. **Claim 15** is rejected for the following reasons:

See Claim 4 rejection.

36. **Claim 16** is rejected for the following reasons:

See Claim 5 rejection.

37. **Claim 17** is rejected for the following reasons:

See Claim 6 rejection.

### ***Conclusion***

38. The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Murthy et al. US 2004/0220927

Eisenberg et al. "SQL/XML and the SQLX Informal Group of Companies"

Kappel et al. "X-Ray –Towards Integrating XML and Relational Database Systems."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cory C. Bell whose telephone number is (571) 272 2736. The examiner can normally be reached on m-f 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Rones can be reached on (571) 272 4085. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**SAM RIMELL**  
**PRIMARY EXAMINER**